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UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

In re Wells Fargo Mortgage Discrimination Litigation	**Case No. 3:22-cv-00990-JD** **DECLARATION OF SALLY RELOVA**

1   I, Sally Relova, declare:

2   1.   I am the Quantitative Analytics Director at Wells Fargo Bank, N.A. ("Wells Fargo"). I have

3 overseen model development, maintenance, and monitoring for quantitative credit risk models that are

4 used across the full credit lifecycle (origination, account management, collections, and recovery) for all

5 consumer products at Wells Fargo since 2014.

6   2.   This Declaration is given on the basis of my personal knowledge and review of records

7 that were made and kept in the regular course of Wells Fargo's business. The records were made at or

8 near the time of the information recorded, and it was Wells Fargo's regular practice to record the

9 information set forth therein. I am familiar with the records and the circumstances under which they were

10 made.

11   **The ECS Models' Scoring and Credit Risk Classes**

12   3.   The Enhanced Credit Score (ECS) actually refers to two separate models Wells Fargo

13 developed and uses in home lending: Model 11419 (used for government loans) and Model 11960 (used

14 for conventional loans).[1] The conventional model (Model 11960) was used in conjunction with Fannie

15 Mae's and Freddie Mac's automated underwriting systems (AUSs) to determine the salability of

16 conforming loan application when it was deployed in 2015. Fannie Mae and Freddie Mac now require

17 those determinations to be made using their own AUSs, so Model 11960 is now used in conforming loans

18 only to inform underwriters about information in the applicants' credit bureau reports and debt-to-income

19 ratio (DTI). Regardless of time and product, however, none of the ECS models approve or deny a loan

20 application.

21   4.   Each of the ECS models is a simple scorecard whose logic can be fully stated on 2-3 sheets

22 of paper. Neither utilizes artificial intelligence. Instead, the ECS models pull numerical values from an

23 applicant's credit report and DTI, and they assign points based on those numerical values. For example, a

24 DTI of >30% to 35% results in a specified number of points being added to the final ECS score, while a

25 DTI of >35% to 40% yields fewer points. Both the points assigned and the thresholds at which they are

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27 [1] A third model was developed for home equity loans within the ECS suite of models, but it was never
used. It is unrelated to what Dr. Kurzendoerfer calls the Wells Fargo Credit Grade (which simply reflects

28 FICO score) or the Wells Fargo home equity AUS reported in HMDA data.

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assigned are static and have not changed since the models were deployed in 2015, so the models do not "learn" over time. Each applicant is scored individually, and if there is a co-applicant the two scores are averaged. The ECS models are simple enough that an applicant's score could be calculated by hand.

5.   Model 11960, developed for use on conventional first-lien mortgage and second-lien simultaneous home equity (SIMO) products, considers 11 credit bureau report attributes and one loan attribute (namely, DTI). It results in a score between 76 and 333, which is not displayed to underwriters, with higher scores indicating lower credit risks. That score is then translated into one of four credit risk classes for conventional mortgages: A1, A2, C1, and C2, with A1 representing the lowest risk of default and C2 the highest. In February 2015, Wells Fargo stopped using Model 11960 to generate the credit risk class for SIMO products. Instead, the SIMO credit risk class was based solely on FICO score.

6.   Model 11419, developed for use on government loans, considers DTI and 10 credit bureau report attributes (7 of which are also considered by Model 11960, but weighted differently). It results in a score between 25 and 237, which is not displayed to underwriters. That score is translated into credit risk classes of G1, G2, and G3, representing increasing levels of default risk.

7.   Neither model considers demographic characteristics like race, ethnicity, sex, or age. As described below concerning model development, some facially neutral variables with predictive power were also excluded out of fair lending concerns. As a result, for example, none of the models considers where the borrower or subject property is located or unemployment.

Risk Insight Messages

8.   The ECS models are also used to generate risk insight messages that are displayed to underwriters. The top six risk insight messages are displayed to the underwriter, ranked in order of importance (or fewer if six messages are not generated). If an ECS model fails to generate a valid score at all (e.g., due to data issues), no risk insight messages are displayed.

9.   Risk insight messages are not based on the ECS credit risk class or total score, but instead reflect the underlying credit report and transaction attributes, ranked by how far they each deviate from neutral. For example, one of the items reported by the credit bureaus is the number of months since an applicant's most recent delinquency. That credit attribute results in a certain number of points being

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1 assigned in both Model 11960 and Model 11419, depending on the number of months reported. But,

2 independent of the final ECS score and related credit risk class, if it has been less than six months since

3 the most recent delinquency, for example, ECS will trigger a risk insight message that reads, "Credit

4 Report: Account(s) have 30 plus days past due within the last 6 months." Risk insight messages carry

5 priorities determined by deviation of the associated attribute from neutral, and only the top six are

6 displayed to underwriters. Consequently, that particular message may or may not be displayed, depending

7 on what other messages are triggered and how far their associated attributes deviate from neutral, but the

8 total ECS score does not factor into that decision. The only impact that the total ECS score has on the risk

9 insight messages is that, where there are co-applicants, the risk insight messages of the applicant with the

10 lower score are displayed.

ECS Model Development and Business Justification

12   10.   The development of the ECS models is described in a number of Model Development

13 documents created for Wells Fargo Corporate Risk and updated from time to time, some of which were

14 updated under my supervision. These documents are kept in the ordinary course of business. I am familiar

15 with these documents, and my understanding of the development of the ECS models draws from them.

16   11.   All ECS models were developed using logistic regression with a dependent variable of

17 whether a mortgage account became 90 or more days past due or worse within the first 36 months of the

18 loan. Model 11960 was developed using historical data about Home Mortgage Conventional and Home

19 Equity SIMO applications and performance. Model 11419 was developed using a different data set

20 concerning Home Mortgage Government applications and performance.

21   12.   The model development team examined the Information Value (IV) and marginal

22 contribution of various potential variables to rank their ability to predict default in selecting possible

23 candidate variables, and looked at different combinations of variables and how they interacted with other

24 variables. The team also used their business knowledge and expertise to exclude variables that did not

25 make sense, that were likely to be highly correlated with each other, to have low predicting power, or that

26 may cause fair lending concerns. The model development team consulted with fair lending compliance

27 officers in selecting which variables to include in the ECS models. Some variables were excluded because

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their predictive power could vary with changes in the lending environment and economic climate, and so they were better utilized in policies instead of in the models. In addition, geographic variables (regions, state, metropolitan statistical area, etc.) and macroeconomic variables (e.g., unemployment) were excluded from the models due to their potential for disparate impact, even though they had predictive power.

13.   The model development team evaluated the performance of each ECS model using conventional model performance metrics. These metrics were also used to compare the ECS models to other models, including a predecessor model no longer in use and FICO.

14.   Model 11960 and Model 11419 were evaluated based on their ability to quantify the expected future performance of the applicant. Both ECS models show a better ability to predict serious default in the sample data (90+ days past due, bankruptcy, foreclosure, or charge-off within 36 months of origination) than FICO. However, the purpose of the ECS models is not to output a probability of whether the applicant will default, but rather to assess the applicant's relative risk of default. The score provides an easy-to-understand assessment of the relative credit risk ranking of the applicant: the higher the score, the lower the risk; the lower the score, the higher the risk. The score is a rank-ordering tool, that is, it reflects the risk of the applicant when compared with other applicants in the applicant population.

15.   Being able to assess risk is extremely important in the mortgage industry. When a borrower defaults, the lender loses money, because the borrower is not paying back the money they borrowed. The borrower is also harmed in the form of reduced credit scores and the potential loss of their home through foreclosure or foreclosure alternative. The ECS models promote these objectives by giving an objective, numerical evaluation of the credit risk of each applicant so that underwriters can make better credit decisions, thereby reducing losses to Wells Fargo and the customer, and, in some instances, increasing acceptance rates.

Testing of ECS by Fair Lending Analytics

16.   Wells Fargo's Fair Lending Analytics team examined Model 11960 for potential disparate impact or use of proxy variables, and they conveyed the results to me. They identified no proxy variables within the attributes considered by Model 11960, meaning that none of the variables could be used to

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1 identify an individual's membership in a protected class. They identified some practically significant

2 differences in Model 11960's score distributions for four of the five protected classes and in the resulting

3 credit risk classes for three of the five classes. (The report I received masked which protected classes were

4 affected.) Fair Lending Analytics identified three variables as the likely drivers of those disparities, and

5 they requested that my team describe the business justifications for the variables used in Model 11960 and

6 consider alternatives.

7   17.   My team did this work in a written report that I understand was produced in this litigation.

8 The report explained which variables made the greatest marginal contribution to the model's ability to

9 predict default and which variables were the main drivers of the model. The model's variables rendered it

10 both more predictive and stable. Moreover, as noted above, Model 11960 is better able to predict default

11 than both its predecessor model and FICO. The business justification document explained how variables

12 were chosen for inclusion in the model and why other variables were not chosen for inclusion. To explore

13 potential alternatives, my team dropped the variables identified in the Fair Lending Analytics report as

14 likely drivers of the disparities, both one by one and altogether. Fair Lending Analytics incorporated that

15 business justification document into an updated report on Model 11960.

ECS Model Usage

17   18.   How each ECS model is used in underwriting mortgage applications depends on both the

18 loan product type and the time period.

Conventional Conforming Loans

20   19.   At present, Model 11960 scores and credit risk classes are not used for conforming

21 mortgage applications. The model is used only to generate risk insight messages. Neither the ECS score

22 nor credit risk class are displayed to underwriters.

23   20.   Prior to July 2021, Model 11960 could contribute to the hybrid credit risk class used in

24 underwriting conforming mortgage applications, because at that time Fannie Mae would accept the Model

25 11960 credit risk class in determining a loan's eligibility for sale. In particular, it would treat an ECS

26 credit risk class of A1 or A2 as the equivalent of an Approve/Eligible from its own automated underwriting

27 system, Desktop Underwriter (DU), with respect to salability considerations. Until 2016, Freddie Mac

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would also treat an ECS credit risk class of A1 or A2 as the equivalent of an Accept result from its automated underwriting system, Loan Prospector (later replaced by Loan Product Advisor) (LP/LPA). As a result, the hybrid credit risk class would be based on DU if it returned a Approve/Eligible result, on LP/LPA if it returned an Accept result, and on ECS only if neither DU nor LP/LPA returned a favorable result. As a consequence, Model 11960 could only ever help an applicant, potentially raising the hybrid credit risk class if both DU and LP/LPA rated the application poorly. The ECS credit risk class was only used as the hybrid risk class if the result was favorable to the customer. The hybrid credit risk class is currently based on only DU and LP/LPA, and ECS plays no role.

21.   Prior to July 2021, Model 11960 could play a role in underwriter routing for retail conforming applications. Applications with worse credit risk classes were routed to underwriters with higher levels of approval authority, but the underwriting requirements remained the same. It is no longer used for underwriter routing, either.

Conventional Non-Conforming Loans

22.   Model 11960 plays a limited role in underwriting conventional non-conforming loan applications. The underwriter can see the risk insight messages generated when the ECS score is calculated. The credit risk classes of A1, A2, C1, and C2 can be viewed by the underwriter as well, but do not determine eligibility. If an applicant wants a letter saying that he or she is prequalified (not preapproved) for a mortgage in order to bid on a home, the Model 11960 credit risk class must be A1 or A2, but there is no such restriction when it comes time to approving a full mortgage application.

Government Loans

23.   Model 11419 plays a limited role in underwriting government loan applications, similar to conventional non-conforming loan applications. It is used to generate risk insight messages, in determining eligibility for prequalification letters, and for underwriter routing. The credit risk classes of G1, G2, and G3 can be viewed by the underwriter to gain a sense of the credit risk of an application, but they do not determine eligibility.

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1   I declare under penalty of perjury that the foregoing is true and correct.

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3   Sally Relova

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5   Executed on July ___, 2024
        7/23/2024

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DocuSign

Certificate Of Completion

Envelope Id: AF30B105DCB44D66A48B8EE5ABD2FF89		Status: Completed
Subject: Complete with Docusign: ECS Business Justification Declaration_(20116069)_(2).DOCX		
Source Envelope:		
Document Pages: 8	Signatures: 1	Envelope Originator:
Certificate Pages: 3	Initials: 0	Tina Mitchell
AutoNav: Enabled		420 Montgomery St.
EnvelopeId Stamping: Enabled		San Francisco, CA 94104
Time Zone: (UTC-08:00) Pacific Time (US & Canada)		Tina.M.Mitchell@wellsfargo.com
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Signer Events	Signature	Timestamp
Sally Relova sally.relova@wellsfargo.com Security Level: Email, Account Authentication (None)	DocuSigned by: Sally Relova 1F90D3B65A8F49E... Signature Adoption: Pre-selected Style Using IP Address: 159.45.186.16	Sent: 7/23/2024 11:07:48 AM Viewed: 7/23/2024 3:22:18 PM Signed: 7/23/2024 3:33:12 PM

Electronic Record and Signature Disclosure:
    Accepted: 7/23/2024 3:22:18 PM
    ID: 980fb729-3c03-4832-8311-1b8ce2a81b8f

In Person Signer Events	Signature	Timestamp

Editor Delivery Events	Status	Timestamp

Agent Delivery Events	Status	Timestamp

Intermediary Delivery Events	Status	Timestamp

Certified Delivery Events	Status	Timestamp

Carbon Copy Events	Status	Timestamp

Witness Events	Signature	Timestamp

Notary Events	Signature	Timestamp

Envelope Summary Events	Status	Timestamps
Envelope Sent	Hashed/Encrypted	7/23/2024 11:07:48 AM
Certified Delivered	Security Checked	7/23/2024 3:22:18 PM
Signing Complete	Security Checked	7/23/2024 3:33:12 PM
Completed	Security Checked	7/23/2024 3:33:12 PM

Payment Events	Status	Timestamps

Electronic Record and Signature Disclosure

Electronic Record and Signature Disclosure

Last updated: April 26, 2021

You are entitled by law to receive certain information "in writing." However, we may instead provide this information to you electronically with your prior consent. We also need your consent to use electronic signatures. In this consent (the "Consent"), "we," "us," "our," and "Wells Fargo" refer to Wells Fargo Bank, N.A. and any affiliate or subsidiary of Wells Fargo Bank, N.A. "You" and "your" refer to the person agreeing to this Consent.

1. **Scope.** In our sole discretion, we may provide to you, or you may sign, submit, or agree to at our request, certain documents, records, disclosures, notices, communications, agreements, fee schedules, statements, and other information in electronic form through the DocuSign system ("Electronic Records"). We may also use electronic signatures and obtain them from you through the DocuSign system ("Electronic Signatures"). You may receive emails related to the Electronic Records and Electronic Signatures. This Consent applies to any Electronic Records or Electronic Signatures in connection with the signing event on the DocuSign system associated with this Consent (the "Signing Event").

2. **Paper Copies.** We will not send you paper copies of any Electronic Records unless we, in our sole discretion, deem it appropriate to do so. If you desire a paper copy of an Electronic Record, you may: (a) download or print the Electronic Record after the Signing Event; or (b) contact the appropriate customer service unit and request a paper copy, for which we may charge you a fee unless prohibited by law. Any such fee will be disclosed at the time of request.

3. **Your Email Address.** To update your email address before completing the Signing Event: (a) if you arrived at the Signing Event through Wells Fargo Online® or a similar online system, follow the appropriate procedure for that system to update your email address; or (b) if you arrived at the Signing Event through a link in an email you received, please contact the Wells Fargo representative associated with that email.

4. **Withdrawal.** This Consent only applies to the Signing Event, and you will not be able to withdraw this Consent after you have completed the Signing Event. If you do not wish to agree to this Consent, you may decline to continue with the Signing Event.

5. **Software and Hardware Requirements.** To use Electronic Records and Electronic Signatures, you must meet the current minimum DocuSign system requirements, which can be found here: https://support.docusign.com/guides/signer-guide-signing-system-requirements. In addition, you must have:
   - o A web browser listed on the Wells Fargo Supported Browsers and Operating Systems page (https://www.wellsfargo.com/help/online-banking/browser-supported);
   - o An Internet connection;
   - o An active email account;
   - o A currently supported version of a program that accurately displays PDF files;
   - o A computer or other device and an operating system capable of supporting all of the above;
   - o A printer, if you wish to print out paper copies of Electronic Records; and
   - o Electronic storage, if you wish to retain Electronic Records in electronic form.

Please indicate you have read, understand, and agree to this Consent by selecting the checkbox next to "I agree to use electronic records and signatures" before clicking "CONTINUE" within the Signing Event.